INDEX

SOVIET POWDER METALLURGY AND METAL CERAMICS

Volume 11, Numbers 1-12, 1972

SOVIET POWDER METALLURGY AND METAL CERAMICS
Volume 11, Numbers 1-12, 1972
(A translation of Poroshkovaya Metallurgiya)

A

Adamovskii, A. A. - 687
Ageeva, V. S. - 559
Aivazov, M. I. - 176
Aivazov, V. Ya. - 484, 904
Aksenov, G. I. - 1008
Aleksandrova, A. B. - 730, 831, 965, 970
Aleksanov, A. E. - 150
Alekseevskii, V. P. - 74, 737
Aleshin, D. V. - 939
Alfintseva, R. A. - 98
Alyamovskii, S. I. - 632
Aminov, T. G. - 913
Amosov, V. M. - 42
Andrievskii, R. A. - 207, 796
Antsiferov, V. N. - 287, 512, 619
Arbuzov, E. A. - 216
Arensburger, D. S. - 38
Asbroeck, P. van - 673, 760
Astakhov, E. A. - 336
Avgustinik, A. I. - 615

B

Babich, B. N. - 622
Babich, M. M. - 124
Babutin, I. A. - 330, 396
Baranchik, G. N. - 330
Bashkirov, Sh. Sh. - 913
Belik, I. T. - 993
Belitskaya, S. G. - 777
Belov, S. V. - 56, 733
Belozerskii, G. N. - 608
Belozerskii, N. A. - 515, 608
Belozub, N. A. - 995
Bel'skaya, E. A. - 637
Belyankina, A. V. - 1004
Belykh, A. B. - 787
Beresten', N. E. - 622
Bereznenko, N. P. - 941
Bibinov, S. A. - 509
Biletskii, A. K. - 737
Bilyk, I. I. - 466, 536
Bobrova, S. N. - 619
Bogomol, I. V. - 441, 824, 910
Bokii, Yu. F. - 80, 851, 956
Bol'shechenko, A. G. - 80, 952, 956, 962, 970, 975, 978, 982, 987
Bondarenko, B. I. - 165
Bondarenko, V. P. - 129
Bondarev, V. N. - 872
Borok, B. A. - 334, 405, 835, 956
Borzilova, V. D. - 220
Bošković, S. B. - 755
Bozhko, S. A. - 74
Bragin, V. P. - 13, 351
Braterskaya, G. N. - 1004
Brekhovskikh, S. M. - 220
Budaev, A. I. - 501
Bukatov, V. G. - 735
Buntushkin, V. P. - 581
Burykina, A. L. - 900
Bushuev, Yu. E. - 687

C

Chainikov, N. A. - 525
Chaplygin, F. I. - 666
Chekhovskoi, V. Ya. - 829
Chekmarev, A. P. - 156
Chernogorenko, V. B. - 426
Chernyshev, L. I. - 456
Chikunov, M. I. - 405, 835
Chizh, V. A. - 153
Chufarov, G. I. - 750
Churakov, M. M. - 471, 724

D

Davydova, L. N. - 663
Degtev, G. F. - 153, 752
Demin, A. V. - 385
Denisenko, É. T. - 322, 673, 760
Denisov, A. G. - 330
Dergunova, V. S. - 642
Dorofeev, Yu. G. - 159, 191, 283, 429, 792, 885
Doroshkevich, E. A. - 613
Dovbishchuk, M. N. - 857
Drozdov, I. A. - 1008
Druzhinin, V. P. - 313
Dubovik, T. V. - 423, 985
Dunets, A. A. - 655
Dvorina, L. A. - 303
D'yakonova, L. V. - 1, 568, 629
Dyban', Yu. P. - 997
Dvuglyanskii, V. S. - 995
Dzhordzhevich, L. - 81
Dzodziev, G. T. - 300, 509
Dzyadykevich, Yu. V. - 900
Dzyuba, A. S. - 446

E

Efremkin, V. V. - 750
Egorova, G. V. - 203
Egorova, L. G. - 777
Épik, A. P. - 626, 745, 854
Eremenko, B. V. - 815
Eremenko, V. N. - 228, 471, 563, 724
Eroshenko, A. I. - 962, 970, 985
Esche, Paul H. - 339
Evdokimov, V. A. - 715
Evtushok, F. M. - 687

F

Faifer, S. I. - 150
Faityants, S. A. - 153
Fantalov, V. S. - 965
Fedorchenko, I. M. - 33, 247, 272, 330, 361, 396, 456, 626, 701, 730, 831, 965, 970
Fedorov, R. I. - 651
Fedorus, V. B. - 47
Fefer, V. Ya. - 22
Fen', E. K. - 881
Fialkov, A. S. - 669
Figurovskii, N. A. - 184
Finkel'shtein, I. M. - 546
Fishman, B. D. - 346
Floka, L. I. - 819
Fomenko, V. S. - 389
Fomichev, E. N. - 129
Fomin, A. V. - 501
Fraishtut, R. G. - 410
Frantsevich, I. N. - 950, 997
Frenkel', O. A. - 541

Fridman, G. L. - 769
Frishberg, I. V. - 750
Furman, V. V. - 80

G

Gaidar' L. M. - 432
Gaiduchenko, A. K. - 80, 952, 960, 965, 997
Gal', V. V. - 596
Garibyan, F. S. - 290
Geguzin, Ya. E. - 367, 446
Generalov, M. B. - 525
Glushkov, V. N. - 452
Gluz', M. D. - 655
Gnesin, G. G. - 402, 471, 997
Golovkina, T. E. - 663
Golubeva, L. S. - 334, 405
Golubkov, L. A. - 603
Gorb, M. L. - 326
Gorbatyuk, V. A. - 861
Gorin, A. I. - 585
Gorskii, V. V. - 900
Grebenkina, V. G. - 918
Gribkov, V. N. - 245, 264
Gribovskii, S. V. - 750
Grishchenko, Z. P. - 475
Grisyuk, V. N. - 960
Gritsai, V. G. - 498
Gropyanov, V. M. - 203
Gugnin, A. A. - 51
Gundorova, N. I. - 385
Gurevich, L. I. - 773
Gurevich, L. V. - 475
Gurvich, O. S. - 907
Guslienko, Yu. A. - 626
Gutin, S. S. - 280

I

Ignat'ev, N. A. - 663
Il'nitskii, V. A. - 995
Irkhin, S. N. - 599
Isaikin, A. S. - 245, 264
Ivanov, V. M. - 1011
Ivanova, I. I. - 272
Ivanova, L. Yu. - 179, 572
Ivashchenko, V. V. - 355
Ivensen, V. A. - 95, 928
Izvekov, G. V. - 831

K

Kachkovskaya, É. T. - 541
Kagarlitskii, V. G. - 907
Kalabukhova, S. V. - 109
Kalikhman, V. L. - 590
Kal'nenko, B. I. - 857
Karelin, B. A. - 42
Kar'kova, A. M. - 563
Karpinos, D. M. - 22, 253, 484, 904
Kartuesov, O. G. - 56
Katashinskii, V. P. - 358
Kats, S. M. - 585
Kavetskii, V. S. - 663
Kazakov, V. K. - 297
Kazimirenko, S. M. - 867
Kel'tsev, V. V. - 956
Khaenko, B. V. - 541
Khandros, É. L. - 689
Khlopin, M. I. - 280
Kisilenko, N. I. - 42
Kislyi, P. S. - 1, 787, 987
Klimenko, P. L. - 156
Klimenko, V. N. - 960
Klochai, I. F. - 475
Klyachko, L. I. - 300
Kokonesku, N. F. - 962
Kolbenev, Yu. M. - 287, 512
Kolesnichenko, L. F. - 61, 559
Kolesnik, N. F. - 956
Kolesnikov, V. A. - 885
Kolesnikov, V. N. - 240
Kolosvetov, Yu. P. - 888, 1015
Komarov, V. L. - 655
Komarova, T. A. - 184
Kondratskii, V. A. - 939
Konov, A. N. - 187
Kopylova, V. P. - 38, 119, 225
Korkh, L. M. - 61, 247
Kornienko, P. A. - 17, 240, 655
Korol', D. I. - 939
Koryagin, V. S. - 176
Kosolapova, T. Ya. - 47
Kostenetskaya, L. I. - 1004
Kostornov, A. G. - 33, 89, 326
Kostyuk, V. A. - 952
Kotov, P. F. - 1018
Kotovskaya, N. L. - 692
Koval'chenko, M. S. - 441, 881, 993
Kovalenko, Yu. I. - 698, 783, 876
Kozina, G. K. - 47, 568, 629
Kozlova, R. F. - 234
Kraplya, A. P. - 745
Krasnov, A. N. - 167, 336
Krat, V. A. - 985
Kravchuk, V. N. - 978
Kravets, Zh. A. - 167
Kreimer, G. S. - 452
Krichevskaya, O. D. - 608
Kruglitskii, N. N. - 741
Kruzhanov, V. S. - 367
Kryachek, V. M. - 730, 831, 962, 965, 970
Krylova, F. N. - 663
Kudimov, V. V. - 1011
Kudintseva, G. A. - 810
Kudryasheva, L. V. - 615
Kulmov, S. D. - 848
Kulakov, M. M. - 150
Kulikov, A. K. - 711
Kulu, P. A. - 599
Kunis, M. I. - 405
Kuprienko, P. L. - 741
Kurdyumov, A. V. - 402
Kurinnoi, V. I. - 184
Kurtuesov, O. G. - 733
Kushchevskii, A. E. - 70
Kuteinikov, A. F. - 385
Kuzenkova, M. A. - 787, 987
Kuz'ma, Yu. B. - 308
Kuznetsov, V. M. - 176
Kuznetsova, G. M. - 810
Kvater, L. I. - 750

L

Lamkov, K. K. - 283, 792, 885
Lavrenko, V. A. - 389
Lavrinenko, I. A. - 715
Lebedik, G. L. - 156
Lesnaya, M. I. - 824, 910
Levchenko, G. V. - 313
Levinzov, V. Kh. - 5
Levit, G. B. - 831
Liberman, A. B. - 913
Likhacheva, T. K. - 810
Linenko, Yu. P. - 200
Lisovets, V. G. - 150
Lisovskii, A. F. - 124, 200
Listovnichaya, S. P. - 484, 904
Litovchenko, N. A. - 777
Lopato, L. M. - 70
Lukashenko, G. M. - 563
Lupanov, A. F. - 494
Lutsenko, L. N. - 642
Lutskii, V. K. - 42
L'vov, S. N. - 51, 824, 910
Lyukevich, V. I. - 622

M

Makarenko, G. N. - 426
Makeev, V. S. - 410
Makhnovskii, S. M. - 962, 975
Maksimenko, L. A. - 268
Mal'ko, P. I. - 51, 599
Mamykina, É. T. - 399
Marko, M. A. - 308
Marmer, É. N. - 907
Martynova, I. F. - 781

Martyukhin, I. D. - 960
Mashkov, A. K. - 498
Mashkovich, L. A. - 385
Matsera, V. E. - 9, 162, 719
Matusevich, I. S. - 294
Matveevskii, R. M. - 336
Medvedev, S. G. - 844
Medvedeva, O. A. - 113
Medvedovskii, A. B. - 1000
Meerson, G. A. - 95, 452
Mel'nichenko, Z. M. - 179, 572
Mel'tser, R. L. - 515
Mikhalyuk, S. A. - 689
Mikheev, V. S. - 109
Mikijelj, V. - 414
Minakova, R. V. - 313
Miroshnichenko, I. Yu. - 891
Miroshnikov, V. N. - 701
Mirzoyan, A. B. - 978, 982
Mishchenko, É. G. - 572
Mishchenko, V. N. - 159, 706
Mogilenskii, V. I. - 203
Morgunovskaya, B. A. - 987
Morozov, V. V. - 666
Moskvin, S. N. - 913
Mozberg, R. K. - 576, 648
Mukaseev, A. A. - 245
Mukha, L. M. - 857
Mural', V. V. - 283, 792, 885
Murzin, Yu. P. - 748
Musikhin, A. M. - 156

N

Naboichenko, S. S. - 255
Naida, Yu. L. - 658, 1000
Naidich, Yu. V. - 555, 715, 939
Nankina, E. A. - 501
Napara-Volgina, S. G. - 867, 960
Natanson, É. M. - 179, 572, 689
Navrotskii, B. S. - 536, 888, 1015
Nazarchuk, T. N. - 119, 225
Nazarenko, N. D. - 399, 737
Nemchenko, V. F. - 51
Nemirovskaya, L. Yu. - 385
Nesterenko, N. A. - 153
Nevodnik, G. M. - 555
Nichiporenko, O. S. - 341, 658, 1000
Nikitin, K. A. - 596
Nikitin, Yu. L. - 165
Nikolić, L. - 1021
Nikol'skaya, I. F. - 385
Nizhenko, V. I. - 819
Nosenko, A. S. - 651
Novitskii, É. S. - 501

O

Obolonchik, V. A. - 727, 766
Okhremchuk, L. N. - 389
Oleinik, G. S. - 402
Ometova, L. F. - 532
Ordan'yan, S. S. - 615
Orlovskii, B. V. - 941
Osovitskii, E. I. - 997
Ostrik, P. N. - 956
Ostroverkhov, V. I. - 985, 987, 993, 997
Ostrovskaya, É. N. - 405, 835
Osvetimskii, L. A. - 494

P

Panaioti, I. I. - 330, 396
Panasyuk, A. D. - 47, 568, 629
Panasyuk, O. A. - 975, 978, 982
Panfilova, I. A. - 247
Panov, A. A. - 280
Panov, V. S. - 452
Parashchenko, R. N. - 330
Pavlyukov, A. A. - 260
Pechentkovskii, E. L. - 975, 978
Peletskii, V. É. - 318, 637
Perekhrest, N. A. - 260
Perel'man, V. E. - 613
Perepelkin, A. V. - 38
Perevertailo, V. M. - 555
Perkova, G. A. - 385
Petković, J. - 419
Petrenko, V. D. - 509
Petrova, E. M. - 28
Petrykina, R. Ya. - 276
Pigrova, G. D. - 608
Pilyankevich, A. N. - 842
Plotkin, S. S. - 66, 137
Plyushch, G. V. - 162
Plyushchev, V. E. - 66, 137
Pochkai, G. N. - 437
Podchernyaeva, I. A. - 389
Podmokov, V. B. - 494
Podobeda, L. G. - 220
Polyaev, V. M. - 733
Polyakov, A. A. - 939
Polyakov, D. I. - 410
Pomosov, A. V. - 692, 773
Popichenko, É. Ya. - 956, 960, 978, 982
Popov, A. N. - 956
Popova, O. I. - 872
Portnoi, K. I. - 378
Posos'eva, G. D. - 642
Potemkin, A. I. - 581
Pozdnyak, N. Z. - 711
Pravoverova, L. L. - 590
Prikhod'ko, L. P. - 831, 970
Primachuk, V. L. - 165
Protsenko, T. G. - 389
Prutsakov, V. T. - 191, 283, 429, 792
Pryadka, G. A. - 162
Pugach, É. A. - 132
Pugin, V. S. - 17, 655
Pugina, L. I. - 153, 247, 559, 576, 648
Pushkarev, V. V. - 559
Putimtsev, B. N. - 5, 85, 171, 863

R

Rabinovich, E. M. - 334
Rabkin, V. B. - 234
Radchenko, K. M. - 195, 521, 693
Radomysel'skii, I. D. - 268, 372, 867, 952, 960, 975, 978
Raichenko, A. I. - 165
Rakcheeva, V. I. - 385
Ristić, M. M. - 81, 421, 755, 1021
Roikh, I. L. - 777
Roman, O. V. - 613
Romanovich, I. V. - 622
Romashov, V. M. - 378
Rovinskii, D. Ya. - 330, 396
Rozenshtein, D. G. - 831
Rozhenko, A. A. - 939
Ruch'eva, N. A. - 835
Rudenko, V. N. - 247
Rukhailo, N. V. - 358
Rukin, V. V. - 956
Rusanova, L. N. - 220
Rybal'chenko, M. K. - 393, 437
Rymashevskii, G. A. - 207, 796
Ryzhikov, A. P. - 913

S

Sakhiev, A. S. - 777
Samoilov, V. A. - 651
Samsonov, G. V. - 74, 98, 300, 389, 437, 568, 629, 719, 766, 824, 910, 985
Sapronov, E. I. - 95
Segal', L. D. - 515, 608
Semenov, M. V. - 585, 669
Semenova, E. N. - 184
Serdyuk, G. G. - 268
Serebryakova, T. I. - 441
Sereda, N. N. - 993
Sergeev, L. D. - 750
Sharapov, V. G. - 536

Shchegoleva, R. P. - 334, 405, 835
Shcherban', N. I. - 28
Shchetanov, B. V. - 245, 264
Shepel'skii, N. V. - 518
Shevchenko, A. V. - 70
Shevchuk, M. S. - 33, 89, 326
Shevchuk, Yu. F. - 701
Shilovskaya, M. E. - 479
Shipkov, N. N. - 385
Shtepa, T. D. - 228
Shtern, M. B. - 268
Shumovskaya, E. F. - 815
Shurshakov, A. N. - 642
Shutov, I. D. - 461
Shvedkov, E. L. - 146
Shvedova, L. K. - 276
Shveikin, G. P. - 632
Shvets, T. M. - 179, 572
Sidorko, V. R. - 563
Silaev, A. F. - 663
Silaev, V. A. - 245
Simurov, V. V. - 741
Sinel'nikova, V. S. - 207, 796
Sinyavskii, V. I. - 913
Skorokhod, V. V. - 89, 141, 322, 781
Sleptsova, N. P. - 56
Slys', I. G. - 361
Smirnov, E. V. - 923
Sobchuk, N. S. - 995
Sokker, A. G. - 479
Solonin, S. M. - 141, 456, 941
Solov'ev, E. I. - 970
Soltyk, V. E. - 550
Solyakov, V. K. - 479
Sorokin, V. K. - 1019
Sosnovskii, L. A. - 361, 745, 854
Starodubov, I. P. - 51
Steptsova, N. P. - 941
Strashinskaya, L. V. - 842
Strelov, V. I. - 150
Struk, L. I. - 987
Styskin, B. S. - 165
Suchkov, L. K. - 810
Sukhozhaz, V. V. - 33

T

Telegus, V. S. - 308
Teodorovich, O. K. - 313, 1004
Thümmler, F. - 945
Tikhonov, G. F. - 1019
Timofeeva, N. I. - 622
Titenko, A. G. - 475
Tolochin, V. G. - 965, 970
Toporov, G. N. - 669
Travushkin, G. G. - 735
Trofimova, A. A. - 532
Troitskii, V. N. - 176
Trushko, P. V. - 61, 559
Tsyrkin, A. T. - 159, 651
Tuchinskii, L. I. - 22, 687
Tul'chinskii, L. N. - 861
Tverdokhleb, V. S. - 854

U

Umantsev, É. L. - 264
Upadkhaya, G. Sh. - 684
Uskoković, D. - 81, 1021
Usov, A. M. - 934
Ustinov, L. M. - 393

V

Vainer, L. S. - 727
Vaistukh, I. M. - 593
Vallikivi, A. Yu. - 576, 648
Valov, M. E. - 346
Vashkevich, F. F. - 752
Vasilenko, V. P. - 179, 741
Vdovenko, S. A. - 303
Vertogradskii, V. A. - 829
Vigdergauz, V. Sh. - 615
Vinitskii, I. M. - 488
Vinogradov, G. A. - 358, 698, 783, 876
Vissarionov, V. B. - 95
Vitryanyuk, V. K. - 216, 300, 509, 666
Vladimirtseva, L. A. - 550
Vlasko, N. I. - 399
Vlasyuk, R. Z. - 372
Voitovich, R. F. - 132
Voznesenskii, V. D. - 593

Y

Yakovlev, V. K. - 637
Yanaki, A. A. - 727
Yarosh, V. V. - 74, 737
Yas', D. S. - 494, 844
Yastrebov, V. N. - 939
Yudin, B. A. - 13, 240, 351
Yukhimenko, E. V. - 303
Yunga, A. I. - 399
Yurchenko, B. D. - 187
Yur'ev, B. P. - 603
Yusukhno, V. A. - 962

Z

Zainulin, Yu. G. - 632
Zaporozhets, A. A. - 494
Zayats, A. I. - 260
Zeberin, A. G. - 203
Zelikhman, L. A. - 515
Zhamnova, V. I. - 393
Zhavoronkov, M. A. - 313
Zhdanov, S. M. - 150
Zhenni-Maiskaya, L. O. - 165
Zherditskii, N. T. - 159, 283, 706, 885
Zhilyaev, V. A. - 632
Zhivkovich, M. - 81
Zhukovskaya, L. A. - 851, 952, 978, 982
Zhunda, A. N. - 203
Zhunkovskii, G. L. - 888, 1015
Zil'berberg, V. G. - 253
Živanović, B. - 414
Zmii, V. I. - 129
Zolotarev, A. F. - 962, 965
Zvazhenko, V. K. - 987
Zverev, A. I. - 891

SOVIET POWDER METALLURGY AND METAL CERAMICS
Volume 11, Numbers 1-12, 1972
(A translation of Poroshkovaya Metallurgiya)

Volume 11, Number 1 (109) January, 1972

Engl./Russ.

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS

Comminution Characteristics of Zirconium Diboride – L. V. D'yakonova and P. S. Kislyi 1 1

Manufacture of Powders by the Mechanical Comminution of Sulfur-Containing Iron–Nickel Alloys – B. N. Putimtsev and V. Kh. Levinzon 5 6

THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS

The Process of Fiber Extrusion from Plasticized Mixtures – V. E. Matsera. 9 11

Physicomechanical Properties of Compacts from Silver Powders – V. P. Bragin and B. A. Yudin 13 16

Structuromechanical Properties of Plastic Powder Mixtures Containing a Carboxymethylcellulose Plasticizer – P. A. Kornienko and V. S. Pugin 17 21

THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES

Densification Kinetics of Sandwich-Type Reinforced Materials in Hot Pressing – D. M Karpinos, L. I. Tuchinskii, and V. Ya. Fefer 22 27

Solid-Phase Reactions in Cobalt–Carbide Systems – E. M. Petrova and N. I. Shcherban' 28 35

Sintering of Metal Fiber Materials – A. G. Kostornov, I. M. Fedorchenko, M. S. Shevchuk, and V. V. Sukhozhak 33 41

POWDER METALLURGICAL MATERIALS; PARTS, AND COATINGS

Porous Sintered Titanium-Base Alloys – D. S. Arensburger, V. P. Kopylova, and A. V. Perepelkin. 38 48

Production of Porous Tantalum Anodes of Electrolytic Condensers – V. M. Amosov, B. A. Karelin, N. I. Kisilenko, and V. K. Lutskii 42 53

Conditions of Formation and Some Properties of Zirconium Oxycarbides – T. Ya. Kosolapova, V. B. Fedorus, A. D. Panasyuk, and G. K. Kozina 47 60

TEST METHODS AND PROPERTIES OF MATERIALS

Electrical and Thermal Conductivities of Rhenium, Osmium, and Iridium and Some of Their Alloys with Thorium and Lanthanum in a Wide Temperature Range – A. A. Gugnin, S. N. L'vov, P. I. Mal'ko, V. F. Nemchenko, and I. P. Starodubov . . 51 65

Hydraulic Resistance of Porous Iron – S. V. Belov, O. G. Kartuesov, and N. P. Sleptsova. 56 71

Antifriction Properties of Sulfidized Sintered Materials – L. F. Kolesnichenko, P. V. Trushko, and L. M. Korkh 61 77

Preparation of Thallium Tantalates by the Solid-Phase Sintering of Tl_2O_3 with Ta_2O_5 – S. S. Plotkin and V. E. Plyushchev 66 83

Systems of Highly Refractory Oxides – L. M. Lopato, A. V. Shevchenko, and A. E. Kushchevskii 70 88

	Engl.	Russ.
Effect of Shock Waves on the Structure of Refractory Carbides – G. V. Samsonov, V. P. Alekseevskii, S. A. Bozhko, and V. V. Yarosh	74	93
POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION		
Effect of Additional Oxidation on the Reduction Rate of Rolling Mill Scale – Yu. F. Bokii, V. V. Furman, A. K. Gaiduchenko, and A. G. Bol'shechenko	80	101
FROM ABROAD		
Phenomenological Investigation of the Sintering Process – M. Zhivkovich, L. Dzhordzhevich, D. Uskokovich, and M. M. Ristich	81	103

Volume 11, Number 2 (110) February, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS		
Effect of Blast Parameters on the Mechanism of Disintegration of a Molten Metal Jet and on the Properties of Atomized Powders – B. N. Putimtsev	85	1
THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS		
Changes in Dimensions of Porous Metal Fiber Materials Subjected to Pressing and Sintering – A. G. Kostornov, V. V. Skorokhod, and M. S. Shevchuk	89	7
Lateral Pressure Distribution in the Compaction of Tungsten Carbide – Cobalt Mixtures – G. A. Meerson, V. A. Ivensen, E. I. Sapronov and V. B. Vissarionov	95	15
POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS		
Dispersion Strengthening of Refractory Metals – A Survey – G. V. Samsonov and R. A. Alfintseva	98	19
TEST METHODS AND PROPERTIES OF MATERIALS		
Polythermal Ti – ΣMoNi (9:1) Section of the Ternary System Ti – Mo – Ni – S. V. Kalabukhova and V. S. Mikheev	109	33
Metal – Boron – Nitrogen Systems – A Survey – O. A. Medvedeva	113	38
Reactions of Powdered Disilicides of Groups IV-VI Transition Metals with Some Acids and Sodium Hydroxide Solutions – V. P. Kopylova and T. N. Nazarchuk	119	46
Redistribution of Molten Cobalt in Powder Metallurgical WC – Co Hard Alloys – A. F. Lisovskii and M. M. Babich	124	53
Thermodynamic Properties of Tungsten Silicides in the Temperature Range 1200-2200°K – V. P. Bondarenko, V. I. Zmii, and E. N. Fomichev	129	59
High-Temperature Oxidation of Titanium Carbide – R. F. Voitovich and É. A. Pugach	132	63
Solid-Phase Reactions of Ta_2O_5 with Ga_2O_3 and In_2O_3 – S. S. Plotkin and V. E. Plyushchev	137	69
Kinetics of Interparticle Contact Growth in the Sintering of Unpressed Powders – V. V. Skorokhod and S. M. Solonin	141	74
Procedure in the Control and Acceptance Testing of Friction Materials – E. L. Shvedkov	146	80
POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION		
A Vaccum Chamber for the PA-803 Hot-Pressing Press – M. M. Kulakov, A. E. Aleksanov, V. I. Strelov, S. I. Faifer, S. M. Zhdanov, and V. G. Lisovets	150	84
Effect of Mixing Time on the Quality of Iron and Sulfur Powder Mixtures – N. A. Nesterenko, V. A. Chizh, G. F. Degtev, S. A. Faityants, and L. I. Pugina	153	88
Use of Sheet Rolling Mills for the Rolling of Metal Powders – A. P. Chekmarev, A. M. Musikhin, P. L. Klimenko, and G. L. Lebedik	156	91

	Engl./Russ.	
Sintered Diesel Locomotive Components Produced by Dynamic Hot Pressing —Yu. G. Dorofeev, N. T. Zherditskii, V. N. Mishchenko, and A. T. Tsyrkin	159	94
Production of Hard-Alloy Blanks for Very Small—V. E. Matsera, G. V. Plyushch, and G. A. Pryadka	162	98
EXCHANGE OF EXPERIENCE AND INFORMATION		
Effect of Weakly Reflecting Components on the Coefficient of Reflection of Mixed Powders—A. I. Raichenko, Yu. I. Nikitin, B. I. Bondarenko, V. L. Primachuk, L. O. Zhenni-Maiskaya, and B. S. Styskin	165	101
Metallographic Investigation of Hard Facing Niobium and Molybdenum Carbide Deposits—A. N. Krasnov and Zh. A. Kravets	167	104

Volume 11, Number 3 (111) March, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS		
Effect of the Thermophysical Properties of Gases and Molten Metals on the Properties of Atomized Powders — B. N. Putimtsev	171	1
Use of a Superhigh Frequency Discharge for the Manufacture of Titanium Nitride Powder — V. N. Troitskii, M. I. Aivazov, V. M. Kuznetsov, and V. S. Koryagin	176	8
Effect of Various Additions on the Electrodeposition of Ternary Iron—Cobalt—Nickel Alloys — T. M. Shvets, Z. M. Mel'nichenko, V. P. Vasilenko, L. Yu. Ivanova, and É. M. Natanson	179	12
Particle Size Distribution of Copper Powder — V. I. Kurinnoi, T. A. Komarova, N. A. Figurovskii, and E. N. Semenova	184	18
THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS		
Flow of Powders Pressed at Different Rates under Constant Pressure — B. D. Yurchenko and A. N. Konov	187	21
Energy Absorption during the Densification of Metal Powders at Loading Speeds of up to 50 m/sec — Yu. G. Dorofeev and V. T. Prutsakov	191	25
Length of the Arc of Contact with Allowance for Elastic Compression in the Densification Rolling of Metallurgical Materials — K. M. Radchenko	195	31
Sintered Hard Alloys of Variable Cobalt Content — A. F. Lisovskii and Yu. P. Linenko	200	38
Aluminum Vaporizers Made of Materials Based on Boron Nitride and Titanium Diboride — V. I. Mogilenskii, V. M. Gropyanov, A. N. Zhunda, A. G. Zeberin, and G. V. Egorova	203	42
Single Crystals of Refractory Compounds. Part I. — R. A. Andrievskii, G. A. Rymashevskii, and V. S. Sinel'nikova	207	48
Manufacture of High-Porosity Materials from Complex Carbides — V. K. Vitryanyuk and E. A. Arbuzov	216	59
A Metallothermic Method of Preparation of Cermets — S. M. Brekhovskikh, L. G. Podobeda, L. N. Rusanova, and V. D. Borzilova	220	64
TEST METHODS AND PROPERTIES OF MATERIALS		
Decomposition of Powders of Groups IV-VI Transition Metal Disilicides during Their Analysis — V. P. Kopylova and T. N. Nazarchuk	225	71
Phase Diagram of the System Titanium—Palladium — V. N. Eremenko and T. D. Shtepa	228	75
Thermal Expansion of Two-Phase Texturized Composite Materials — R. F. Kozlova and V. B. Rabkin	234	82
Fine-Grained Composite Materials for SOK15M Electrical Contacts — V. P. Kornienko, V. N. Kolesnikov, and B. A. Yudin	240	90
Normal Modulus of Elasticity of Silicon Nitride Whiskers — A. A. Mukaseev, V. N. Gribkov, B. V. Shchetanov, A. S. Isaikin, and V. A. Silaev	245	97

POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION

Effect of Technological Factors on the Strength of a Sulfidized Iron–Graphite Material – I. M. Fedorchenko, L. M. Korkh, L. I. Pugina, I. A. Panfilova, and V. N. Rudenko . 247 99

Improving the Adhesion of Plasma-Sprayed Coatings to Articles – D. M. Karpinos and V. G. Zil'berberg 253 106

Volume 11, Number 4 (112) April, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS

Effect of the Principal Parameters of Autoclave Copper Deposition from Sulfate Solutions on Powder Characteristics – S. S. Naboichenko 255 1

Some Physical Characteristics of Electrodeposited Platinum–Cobalt Alloy Powder – A. I. Zayats, A. A. Pavlyukov, and N. A. Perekhrest 260 7

Growth of α-Al_2O_3 Whiskers by a Vapor–Liquid–Solid Phase Mechanism – V. N. Gribkov, É. L. Umantsev, A. S. Isaikin, and B. V. Shchetanov 264 12

THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS

Generation of Strong Shock Waves in the High-Speed Pressing of Metal Powders – L. A. Maksimenko, M. B. Shtern, I. D. Radomysel'skii, and G. G. Serdyuk 268 17

THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES

Effect of Composition on the Sintering Shrinkage of Two-Phase Systems – I. M. Fedorchenko and I. I. Ivanova 272 21

Hot Pressing of Transition Metal Nitrides and Their Properties – R. Ya. Petrykina and L. K. Shvedova 276 27

Effect of Oxide Films in the Sintering of Aluminum Powders – S. S. Gutin, A. A. Panov, and M. I. Khlopin 280 32

Effect of Thermomechanical Treatment on Carbon Diffusion in Steel Produced by Dynamic Hot Pressing – Yu. G. Dorofeev, N. T. Zherditskii, V. T. Prutsakov, V. V. Mural', and K. K. Lamkov 283 36

POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS

A Maraging Steel Produced by the Powder Metallurgy Method – V. N. Antsiferov and Yu. M. Kolbenev 287 40

Preparation and Some Properties of Sintered Materials of the System AlN–Al_2O_3–Mo – F. S. Garibyan 290 44

Production of Powder Metallurgical Components of Complex Configuration – I. S. Matusevich 294 49

Manufacture of Silicon Nitride Parts and Properties of Silicon Nitride – V. K. Kazakov . . 297 53

Effect of Molybdenum on the Properties of Sintered TiC–Ni Hard Alloys – G. V. Samsonov, G. T. Dzodziev, L. I. Klyachko, and V. K. Vitryanyuk 300 57

TEST METHODS AND PROPERTIES OF MATERIALS

Reactions of Titanium Diboride with Titanium Disilicide and Silicon at High Temperatures – L. A. Dvorina, E. V. Yukhimenko, and S. A. Vdovenko 303 61

Phase Equilibria in the Systems Hafnium–Niobium–Boron and Tantalum–Chromium–Boron – Yu. B. Kuz'ma, V. S. Telegus, and M. A. Marko 308 66

Structure and Erosion Resistance of Sintered Heavy-Current Mo–Cu Contacts – M. A. Zhavoronkov, G. V. Levchenko, R. V. Minakova, and O. K. Teodorovich . . . 313 72

Physical Properties of W–Y_2O_3 Materials – V. É. Peletskii and V. P. Druzhinin 318 79

Creep of Porous Nickel in Oxidizing and Neutral Atmospheres – É. T. Denisenko and V. V. Skorokhod 322 83

Strength Properties of High-Porosity Metal Fiber Materials – A. G. Kostornov, M. S. Shevchuk, and M. L. Gorb 326 88

Engl./Russ.

Properties of Frictional Pairs Operating in an Open Brake. Part I – D. Ya. Rovinskii, I. I. Panaioti, I. M. Fedorchenko, I. A. Babutin, R. N. Parashchenko, A. G. Denisov, and G. N. Baranchik 330 93

POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION

Chromium Alloy Powders Used for Welding High-Alloy Steels – B. A. Borok, R. P. Shchegoleva, L. S. Golubeva, and E. M. Rabinovich. 334 98

EXCHANGE OF EXPERIENCE AND INFORMATION

Thermal Stability and Life during Friction in a Vacuum of Molybdenum Disulfide Coatings Applied to Steel by the Detonation Technique – R. M. Matveevskii, E. A. Astakhov, and A. N. Krasnov 336 101

FROM ABROAD

125th Anniversary of the Foundation of Karl Zeiss of Jena – Paul H. Esche 339 104

Volume 11, Number 5 (113) May, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS

Stability and Disruption of Plane Liquid Metal Jets – O. S. Nichiporenko 341 1

Disintegration of Molten Metals and Selection of Atomizing Unit Parameters – B. D. Fishman and M. E. Valov 346 7

THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS

Densification of Silver Powders – V. P. Bragin and B. A. Yudin 351 13

Effect of Inertia Loading on the Vibratory Densification of Powder Materials – V. V. Ivashchenko 355 18

Mechanism of Metal Powder Rolling in the Initial, Nonsteady-State Stage – G. A. Vinogradov, N. V. Rukhailo, and V. P. Katashinskii 358 22

THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES

Technology of Sintering of Powder Metallurgical Materials without a Circulating Protective Atmosphere – I. M. Fedorchenko, I. G. Slys', and L. A. Sosnovskii 361 26

Sintering of Amorphous Spheres – Ya. E. Geguzin and V. S. Kruzhanov 367 33

POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS

Effect of Sintering Temperature on the Phase Composition of Metal-Glass Materials – R. Z. Vlasyuk and I. D. Radomysel'skii 372 39

TEST METHODS AND PROPERTIES OF MATERIALS

Binary Constitution Diagrams of Systems Composed of Various Elements and and Boron – A Review – K. I. Portnoi and V. M. Romashov 378 48

Reactions of Zirconium and Silicon in the Presence of Excess Carbon – V. I. Rakcheeva, L. A. Mashkovich, G. A. Perkova, L. Yu. Nemirovskaya, I. F. Nikol'skaya, N. I. Gundorova, A. V. Demin, N. N. Shipkov, and A. F. Kuteinikov 385 57

Correlation between the Work Functions of Transition Metal Carbides in Their Homogeneity Regions and Surface Recombination of Hydrogen Atoms – G. V. Samsonov, I. A. Podchernyaeva, V. S. Fomenko, V. A. Lavrenko, L. N. Okhremchuk, and T. G. Protsenko 389 62

Electrical Resistivity of Fiber Composites – M. K. Rybal'chenko, L. M. Ustinov, and V. I. Zhamnova 393 67

Properties of Frictional Pairs Operating in an Open Brake. Part II – D. Ya. Rovinskii I. I. Panaioti, I. M. Fedorchenko, and I. A. Babutin 396 71

Technical Sitalls Suitable for Operation under Unlubricated Friction Conditions – N. D. Nazarenko, É. T. Mamykina, A. I. Yunga, and N. I. Vlasko 399 75

	Engl.	Russ.
X-Ray Diffraction Investigation of the Reaction of Silicon with Carbon—G. G. Gnesin, A. V. Kuranumov, and G. S. Oleinik	402	78
POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION		
Manufacture of Powders of Nickel-Base Brazing Alloys—B. A. Borok, R. P. Shchegoleva, L. S. Golubeva, É. N. Ostrovskaya, M. I. Chikunov, and M. I. Kunis	405	82
EXCHANGE OF EXPERIENCE AND INFORMATION		
PGP-1 Vacuum Electric Hot-Pressing Furnace—D. I. Polyakov, V. S. Makeev, and R. G. Fraishtut	410	89
FROM ABROAD		
Vibratory Densification of Dispersion-Type Fuel Elements for Nuclear Reactors —B. Živanović and V. Mikijelj	414	93
A Note on Specific Surface—J. Petković	419	100
CHRONICLES		
Second International Colloqium on Sintering. (September 6-11, 1971, Hercegnovi, Yugoslavia)—M. M. Ristić	421	102
Third Conference on Powder Metallurgy—T. V. Dubovik	423	103
Symposium on Rare Metals in the National Economy of the Ukrainian SSR —V. B. Chernogorenko and G. N. Makarenko	426	105

Volume 11, Number 6 (114) June, 1972

THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS		
Densification, Fine Structure, and Properties of Compacts Produced by Dynamic Pressing —Yu. G. Dorofeev and V. T. Prutsakov	429	1
Energy and Force Parameters of Powder Rolling—L. M. Gaidar'	432	5
Some Pressing Characteristics of Molybdenum Wire (Fibers)—G. N. Pochkai, M. K. Rybal'chenko, and G. V. Samsonov	437	10
THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES		
Kinetics of the Hot Pressing of Titanium and Tungsten Carbide Alloys Cemented with Niobium—M. S. Koval'chenko, I. V. Bogomol, and T. I. Serebryakova	441	15
Coagulation of Adjacent Nonisometric Pores and Gas-Filled Voids—Ya. E. Geguzin and A. S. Dzyuba	446	22
POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS		
Effect of Conditions of Preparation of Metallic Tungsten on the Properties of T15K6 Alloy —G. A. Meerson, G. S. Kreimer, V. N. Glushkov, and V. S. Panov	452	31
Properties of Porous Nickel-Molybdenum and Nickel-Chromium-Molybdenum Alloy Materials—S. M. Solonin, L. I. Chernyshev, and I. M. Fedorchenko	456	36
Temperature and Flight Velocity of Particles in Facing by Gas-Powder Welding —I. D. Shutov	461	42
Potentialities of Carbonitrides as the Hard Constituent of Sintered Hard Alloys—I. I. Bilyk	466	49
TEST METHODS AND PROPERTIES OF MATERIALS		
Dissolution Kinetics of Polycrystalline Silicon Carbide in Liquid Silicon—V. N. Eremenko, G. G. Gnesin, and M. M. Churakov	471	55
Choice of Suitable Physicochemical and Magnetic Parameters for Assessing the Quality of Soft Magnetic Ferrite Powders—A. G. Titenko, I. F. Klochai, L. V. Gurevich, and Z. P. Grishchenko	475	60
Gas Permeability of High-Porosity Sintered Nickel—V. K. Solyakov, M. E. Shilovskaya, and A. G. Sokker	479	65

Spectroscopic Investigation of the Reaction of Oxides with Metallic Surfaces. II. Systems SiO_2-Fe (Cu, Al, Ni, Co, Ti, W)—D. M. Karpinos, S. P. Listovnichaya, and V. Ya. Aivazov 484 71
Relation between the Properties of Monocarbides of Groups IV-V Transition Metals and Their Carbon Content—L. M. Vinitskii 488 76
POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION
Effect of Copper-Clad Graphite on the Properties of Iron Base Sintered Materials —D. S. Yas', L. A. Osvetimskii, A. A. Zaporozhets, V. B. Podmokov and and A. F. Lupanov. 494 83
Production of Sintered Shaping Elements of Molds for Plastics by Hydrostatic Pressing —A. K. Mashkov and V. G. Gritsai 498 88
Optimum Sintering Conditions for Bushings of Automobile Engine Valve Guides and the Effect of Some Factors on Their Physicomechanical Properties and Structure—E. A. Nankina, A. V. Fomin, A. I. Bukaev, and É. S. Novitskii 501 92
Rapid Determination of the Total Carbon Content of Titanium Carbide—S. A. Bibinov, G. T. Dzodziev, V. K. Vitryanyuk, and V. D. Petrenko. 509 102
CHRONICLES
Scientific-Technical Seminar on Powder Metallurgy Materials in Engineering —V. Antsiferov and Yu. Kolbenev. 512 105

Volume 11, Number 7 (115) July, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS
Carbonyl Iron—Nickel—Molybdenum Powders—N. A. Belozerskii, L. D. Segal', R. L. Mel'tser, and L. A. Zelikhman 515 1
THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS
Calculation of Radial Pressures Generated in the Pressing of Metal Fiber Materials—N. V. Shepel'skii 518 5
Analysis of the Yield Strength Variation in the Densification Rolling of Sintered Materials —K. M. Radchanko 521 9
Rolling of Powder onto Parts—M. B. Generalov and N. A. Chainikov 525 14
THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES
Sintering of Thin 80% Ni—20% Cr Alloy Films—L. F. Ometova and A. A. Trofimova 532 22
POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS
Sintered Hard Alloys—I. I. Bilyk, B. S. Navrotskii, and V. G. Sharapov 536 28
Condition of Titanium and Vanadium Mononitride Particles after Nitriding and Heat Treatment—B. V. Khaenko, É. T. Kachkovskaya, and O. A. Frenkel' 541 34
Production and Properties of Si_3N_4—Cr_2O_3 Materials—I. M. Finkel'shtein 546 40
Relation between the Phase Composition and Technological Characteristics of Mn—Zn Ferrite Powders—L. A. Vladimirtseva and V. E. Soltyk 550 45
TEST METHODS AND PROPERTIES OF MATERIALS
Kinetics of Spreading of Molten Metals on Solid Surfaces—Yu. V. Naidich, V. M. Perevertailo, and G. M. Nevodnik. 555 51
Thermal Stability of Some Metallic Sulfides in Sintered Iron Base Materials —L. F. Kolesnichenko, P. V. Trusko, L. I. Pugina, V. S. Ageeva, and V. V. Pushkarev 559 56
Thermodynamic Properties of Chromium Silicides—V. N. Eremenko, G. M. Lukashenko, V. R. Sidorko, and A. M. Khar'kova 563 61

Contact Reaction of Refractory Compounds with Liquid Metals I. Reaction of Carbides of Subgroup-IVa Metals with the Iron-Group Metals —G. V. Samsonov, A. D. Panasyuk, G. K. Kozina, and L. V. D'yakonova 568 66
Magnetic Properties of Fine Iron-Cobalt-Nickel Alloy Powders—T. M. Shvets, L. Yu. Ivanova, Z. M. Mel'nichenko, É. G. Mishchenko, and É. M. Natanson 572 71
Properties of Iron Base Powder Metallurgical Materials Sintered in Various Protective Atmospheres—A. Yu. Vallikivi, L. I. Pugina, and R. K. Mozberg 576 76
Rated of Growth of Refractory Oxide Particles in Powder Metallurgical Nickel —V. P. Buntushkin and A. I. Potemkin 581 82
Physicomechanical Properties of Carbide Fiber Materials—S. M. Kats, A. I. Gorin, and M. V. Semenov 585 87
Antifirction and Electrical Properties of Quasi-binary WSe_2-$NbSe_2$ Alloys —V. L. Kalikhman and L. L. Pravoverova 590 93

POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION
A Feeding Device for Supplying Powder Materials to Spray Deposition Installations —I. M. Vaistukh and V. D. Voznesenskii 593 97
Fluid-bed Preparation of Niobium Carbide—V. V. Gal' and K. A. Nikitin 596 100
Thermophysical Properties of High-Porosity Sintered Iron Subjected To Chemicothermal Treatment—P. I. Mal'ko, P. A. Kulu, and S. N. Irkhin 599 104

Volume 11, Number 8(116) August, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS
An Electrolytic Method of Preparation of Iron-Nickel-Molybdenum Alloy Powders —L. A. Golubkov and B. P. Yur'ev 603 1
Phase Composition of Carbonyl Iron-Nickel Powders—N. A. Belozerskii, O. D. Krichevskaya, G. D. Pigrova, G. N. Belozerskii, and L. D. Segal' 608 8

THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS
Distribution of Density in Metal Powder Compacts—O. V. Roman, V. E. Perel'man, and E. A. Doroshkevich 613 14
Process Parameters Affecting the Viscosity of a Thermoplastic Slurry and the Properties of Niobium Carbide Base Slurry Castings—A. I. Avgustinik, S. S. Ordan'yan, L. V. Kudryasheva, and V. Sh. Vigdergauz 615 16

POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS
Sintered V2Zh Type Alloy—V. N. Antsiferov and S. N. Bobrova 619 21
Effect of the Character of Distribution of Strengthening Phase Particles in Powders on the Thermal Stability of Dispersion-Hardened Nickel—B. N. Babich, N. E. Beresten', V. I. Lyukevich, I. V. Romanovich, and N. I. Timofeeva 622 25
Composite Nickel-Boron Electrolytic Coatings—I. M. Fedorchenko, Yu. A. Guslienko, and A. P. Épik 626 31

TEST METHODS AND PROPERTIES OF MATERIALS
Contact Reaction of Refractory Compounds with Liquid Metals. II. Reaction of Carbides of Subgroup Va and VIa Metals with Liquid Transition Metals —G. V. Samsonov, A. D. Panasyuk, G. K. Kozina, and L. V. D'yakonova 629 35
High-Temperature Oxidation of Zirconium and Hafnium Oxycarbides, Oxynitrides, and Oxycarbonitrides—V. A. Zhilyaev, Yu. G. Zainulin, S. I. Alyamovskii, and G. P. Shveikin 632 38
An Experimental Investigation of the Transmission Properties of Porous Nickel —E. A. Bel'skaya, V. É. Peletskii, and V. K. Yakovlev 637 44

	Engl.	Russ.
Some Strength Properties of Graphite–Zirconium Carbide Composite Materials –V. S. Dergunova, A. N. Shurshakov, G. D. Posos'eva, and L. N. Lutsenko	642	51
Antifriction Properties of Iron Base Powder Metallurgical Materials Sintered in Various Protective Atmospheres–A. Yu. Vallikivi, L. I. Pugina, and R. K. Mozberg	648	59
POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION		
Effect of Rate of Cooling after Sintering on the Structure and Properties of ZhGr1.5D2.5 Powder Metallurgical Material–R. I. Fedorov, A. T. Tsyrkin, V. A. Samoilov, and A. S. Nosenko	651	63
Application of Porous Sintered Tubes in Equipment for the Preparation of Dispersed High-Viscosity Mixtures–A. A. Dunets, P. A. Kornienko, V. L. Komarov, M. D. Gluz', and V. S. Pugin	655	68
Calculation of Compressed-Air Atomizing Nozzles–Yu. I. Naida and O. S. Nichiporenko	658	72
EXCHANGE OF EXPERIENCE AND INFORMATION		
A Technique for the Direct Observation of Pores in Porous Materials–T. E. Golovkina, L. N. Davydova, N. A. Ignat'ev, F. N. Krylova, V. S. Kavetskii, and A. F. Silaev	663	77
Effect of Sintering Atmosphere on the Quality of Powder Metallurgical Hard Alloys Containing Zirconium and Hafnium Carbides–F. I. Chaplygin, V. K. Vitryanyuk, and V. V. Morozov	666	81
Effect of Oxidation on the Pressing Behavior of Fine Graphite Powders–G. N. Toporov, A. S. Fialkov, and M. V. Semenov	669	85
FROM ABROAD		
Sintered 13% Cr Steel for Fast Reactor Fuel Element Cans. I. TiO_2-Free Steels –É. T. Denisenko and P. van Asbroeck	673	89
CHRONICLES		
Seventh International Plansee Seminar on Powder Metallurgy and High-Temperature Materials–G. Sh. Upadkhaya	684	103
Sixth Scientific Conference of Graduates and Young Researchers of the Institute of Materials Science, Academy of Sciences of the Ukrainian SSR –A. A. Adamovskii, Yu. E. Bushuev, F. M. Evtushok, and L. I. Tuchinskii	687	105

Volume 11, Number 9 (117) September, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS		
Structure of Colloidal Palladium Particles–S. A. Mikhalyuk, É. L. Khandros, and É. M. Natanson	689	1
Influence of Temperature and Protective Atmosphere in the Drying of Copper Powder on Its Physicochemical Properties–A. V. Pomosov and N. L. Kotovskaya	692	6
THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS		
Contact Stresses in Densification Rolling–K. M. Radchenko	693	8
Analyticoexperimental Investigation of Metal Powder Deformation in Rolling –Yu. I. Kovalenko and G. A. Vinogradov	698	14
THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES		
Vacuum Diffusion Sinter Bonding of Iron Base Powder Metallurgical Components to Steel –V. N. Miroshnikov, I. M. Fedorchenko, and Yu. F. Shevchuk	701	18
Effect of Heat Treatment on the Structure and Properties of Sintered Steels Produced by Dynamic Hot Pressing–N. T. Zherditskii and V. N. Mishchenko	706	25

	Engl.	Russ.
Anticorrosion Treatment of Sintered Constructional Parts of Business Machines—A. K. Kulikov and N. Z. Pozdnyak	711	31
Densification During Liquid-Phase Sintering in Diamond–Metal Systems. I. Free Sintering—Yu. V. Naidich, I. A. Lavrinenko, and V. A. Evdokimov	715	36
POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS		
Manufacture and Properties of Powder Metallurgical Refractory Compound Fibers and Porous Fiber Materials—G. V. Samsonov and V. E. Matsera	719	42
TEST METHODS AND PROPERTIES OF MATERIALS		
Reaction of Chromium Carbide with Molten Copper–Nickel Alloys—V. N. Eremenko and M. M. Churakov	724	48
Chemical Stability of Tellurides of Subgroup VIa Transition Metals in Various Corrosive Media—V. A. Obolonchik, L. S. Vainer, and A. A. Yanaki	727	52
Effect of Technological Factors on the Properties of MK-5 Friction Material. I. Effect of Pressing and Sintering Parameters on the Physicomechanical Properties of MK-5 Material—A. B. Aleksandrova, V. M. Kryachek, and I. M. Fedorchenko	730	56
Mean Pore Size of Porous Metals—S. V. Belov, O. G. Kartuesov, and V. M. Polyaev	733	60
Effect of High-Temperature Annealing upon the Rupture Characteristics of Zirconium Carbide—G. G. Travushkin and V. G. Bukatov	735	63
Possibilities of Producing Mullite under High Dynamic Pressures—V. P. Alekseevskii, A. K. Biletskii, N. D. Nazarenko, and V. V. Yarosh	737	65
Examination of Metal Oxide Powders with the Electron Microscope—N. N. Kruglitskii, P. I. Kuprienko, V. V. Simurov, and V. P. Vasilenko	741	70
POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION		
Diffusion Boronizing of Molybdenum and Niobium in Boron Carbide Powder—L. A. Sosnovskii, A. P. Épik, and A. P. Kraplya	745	75
Production of Internal Screw Threads in Powder Metallurgy Parts—Yu. P. Murzin	748	79
EXCHANGE OF EXPERIENCE AND INFORMATION		
A New Method for the Manufacture of Metal Powders—I. V. Frishberg, V. V. Efremkin, L. I. Kvater, L. D. Sergeev, S. V. Gribovskii, and G. I. Chufarov	750	82
Selection of Methods for the Supply and Mixing of Powder Materials in the Plasma Spray Deposition of Composite Coatings—F. F. Vashkevich and G. F. Degtev	752	84
FROM ABROAD		
Sintering of Nonstoichiometric Nickel Oxide—S. B. Bošković and M. M. Ristić	755	88
Sintered 13% Cr Steel for Fast Reactor Fuel Element Cans. II. TiO_2-Containing Steels—É. T. Denisenko and P. van Asbroeck	760	95
HISTORY, EVENTS, FACTS		
Frederic Henri Moissan, on the 120th Anniversary of His Birth—G. V. Samsonov and V. A. Obolonchik	766	102
A Survey of the Manufacture of Iron Powders Abroad. I. Manufacture of Iron Powders in the Twentieth Century up to the End of World War II—G. L. Fridman	769	104

Engl./Russ.

Volume 11, Number 10 (118) October, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS

Effect of Thiourea on the Electrodeposition of Copper Powder —L. I. Gurevich and A. V. Pomosov 773 1

Application of the Scanning Electron Microscope in the Examination of Powders—I. L. Roikh, N. A. Litovchenko, S. G. Belitskaya, L. G. Egorova, and A. S. Sakhiev 777 6

Relative Magnitudes of the Structural and Plastic Components in the Deformation of Powder Materials—I. F. Martynova and V. V. Skorokhod 781 11

Geometric Representation of the Deformation of Powder Materials —Yu. I. Kovalenko and G. A. Vinogradov 783 14

THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES

Some Sintering Characteristics of Chromic Oxide—Chromium Cermets —A. B. Belykh, M. A. Kuzenkova, and P. S. Kislyi 787 19

POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS

Diffusion of Carbon in Iron Specimens Produced by Dynamic Hot Pressing —Yu. G. Dorofeev, V. V. Mural', V. T. Prutsakov, and K. K. Lamkov 792 25

Single Crystals of Refractory Compounds – a Review. Part II —R. A. Andrievskii, G. A. Rymashevskii, and V. S. Sinel'nikova 796 30

Production of Large-Sized Lanthanum Hexaboride Parts —G. M. Kuznetsova, G. A. Kudintseva, T. K. Likhacheva, and L. K. Suchkov 810 46

TEST METHODS AND PROPERTIES OF MATERIALS

Reactions of Aqueous Silicon Carbide Suspensions with an Acid and an Alkali —B. V. Eremenko and E. F. Shumovskaya 815 52

Effect of Carbon on the Surface Properties of Liquid Iron —V. I. Nizhenko and L. I. Floka 819 57

Electrophysical Properties of TiC—Nb, TiC—Ta, TiC—Mo, and TiC—W Cermets —G. V. Samsonov, I. V. Bogomol, S. N. L'vov, and M. I. Lesnaya 824 62

Electrical Resistivity of Sintered Tungsten—Rhenium Alloys —V. A. Vertogradskii and V. Ya. Chekhovskoi 829 68

Effect of Technological Factors on the Properties of Friction Materials. II. Effect of Sintering Conditions on the Structure and Frictional and Wear Properties of Powder Metallurgy Friction Disks—A. B. Aleksandrova, V. M. Kryachek, G. B. Levit, D. G. Rozenshtein, I. M. Fedorchenko, L. P. Prikhod'ko, and G. V. Izvekov 831 71

Structure of Powder Brazing Alloys Based on the System Ni—Cr—Si—Fe—B—C(—Mo) —B. A. Borok, M. I. Chikunov, R. P. Shchegoleva, É. N. Ostrovskaya, and N. A. Ruch'eva 835 77

Application of a Two-Stage Method of Decoration to the Examination of the Real Surface Structure of Silicon Carbide Single Crystals —A. N. Pilyankevich and L. V. Strashinskaya 842 85

PTFE Distribution across the Wall Thickness of an Impregnated Powder Metallurgy Bushing—S. G. Medvedev and D. S. Yas' 844 88

POWDER METALLURGY INDUSTRY, ECONOMICS, AND ORGANIZATION OF PRODUCTION

Machining of Tungsten Powder Compacts—S. D. Kuimov 848 92

Effect of the Insoluble Residue Content of Starting Powder on the Properties of Powder Metallurgy Steels—L. A. Zhukovskaya and Yu. F. Bokii 851 95

Engl./Russ.

Effect of Some Activators on the Siliconizing of Molybdenum and Niobium
—L. A. Sosnovskii, A. P. Épik, and V. S. Tverdokhleb 854 98
Use of Porous Shims in the Diffusion Welding of Hard Alloys to Steels
—I. M. Mukha, M. N. Dovbishchuk, and B. I. Kal'nenko 857 101

CHRONICLES
Second Seminar on the Production Technology, Structure, and Physical Properties of Ferrites—L. N. Tul'chinskii and V. A. Gorbatyuk 861 106

Volume 11, Number 11 (119) November, 1972

THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS
Manufacture of Atomized Iron Powders Alloyed with Aluminum and Silicon
— B. N. Putimtsev 863 1
Manufacture and Some Properties of Iron—Chromium—Nickel Alloy Powders
— I. D. Radomysel'skii, S. G. Napara-Volgina, and S. M. Kazimirenko 867 7
Some Chemical Properties of Tantalum Germanide Powders — O. I. Popova and V. N. Bondarev. 872 13

THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS
Deformation Coefficients of Metal Powders — Yu. I. Kovalenko and G. A. Vinogradov . . . 876 18

THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES
Hot Pressing of Oxides of the Iron Group Metals — M. S. Koval'chenko and E. K. Fen' 881 24
Carbon and Manganese Diffusion Processes in G13M Sintered Steel
— Yu. G. Dorofeev, V. V. Mural', N. T. Zherditskii, K. K. Lamkov, and V. A. Kolesnikov. 885 29

POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS
Boronizing of Cobalt and Some Cobalt Base Alloys — G. L. Zhunkovskii, B. S. Navrotskii, and Yu. P. Kolosvetov 888 33
Application of the Detonation Phenomenon in the Deposition of Coatings—A Review
— A. I. Zverev and I. Yu. Miroshnichenko 891 36

TEST METHODS AND PROPERTIES OF MATERIALS
Compatibility of Boron Fibers with a Tungsten Substrate and a Titanium Matrix
— A. L. Burykina, Yu. V. Dzyadykevich, and V. V. Gorskii 900 48
Spectroscopic Investigation of the Reaction of Oxides with Metallic Surfaces
III. Systems Al_2O_3—Me (Al, Cu, Ti, 18/9/Ti Steel, Ni, Co, Mo, W, Si)
— D. M. Karpinos, V. Ya. Aivazov, and S. P. Listovnichaya 904 54
Dilatometry of Specimens of Difficult to Machine Materials — V. G. Kagarlitskii, O. S. Gurvich, and É. N. Marmer 907 58
Thermal Conductivity of Cermets Containing Titanium Carbide — G. V. Samsonov, I. V. Bogomol, S. N. L'vov, and M. I. Lesnaya 910 62
Intermediate Phases Appearing during the Formation of Ferrites — Sh. Sh. Bashkirov, A. B. Liberman, V. I. Sinyavskii, T. G. Aminov, S. N. Moskvin, and A. P. Ryzhikov 913 66
Magnetic Properties of Carbides of the Transition Metals — V. G. Grebenkina. 918 73
Measurement of the Emissivity of Materials Produced by Powder and Plasma Metallurgy Techniques — E. V. Smirnov 923 79
Effect of Cobalt Content on the Tensile Strength of WC—Co Hard Alloys
— V. A. Ivensen 928 85

Engl./Russ.

EXCHANGE OF EXPERIENCE AND INFORMATION

Use of Sintered Bushings in the Pivots of the Braking Systems of Passenger Railroad Cars – A. M. Usov 934 93

A High-Vacuum Installation for the Active Brazing of Large-Sized Parts – Yu. V. Naidich, V. A. Kondratskii, A. A. Rozhenko, D. V. Aleshin, D. I. Korol', A. A. Polyakov, and V. N. Yastrebov 939 99

Operating Performance of Sintered Porous Materials in a Hot Steam Atmosphere – B. V. Orlovskii, N. P. Bereznenko, S. M. Solonin, and N. P. Steptsova. 941 102

FROM ABROAD

Powder Metallurgy Teaching in Western Germany – F. Thümmler 945 107

Volume 11, Number 12 (120) December, 1972

Editorial 947 1

PRODUCTION SECTION

New Forms of Association between Science and Production – I. N. Frantsevich 950 4

Effect of Some Factors on the Compressibility of Iron Powders – A. G. Bol'shechenko, A. K. Gaiduchenko, I. D. Radomysel'skii, L. A. Zhukovskaya, and V. A. Kostyuk . . 952 7

Experience with the Use of Carbon Black Iron in the Manufacture of Iron Powder at the Brovary Powder Metallurgy Factory – P. N. Ostrik, N. F. Kolesnik, A. N. Popov, B. A. Borok, V. V. Rukin, A. G. Bol'shechenko, É. Ya. Popichenko, Yu. F. Bokii, and V. V. Kel'tsev 956 12

Mastering the Industrial Production of Kh30 Powder at the Brovary Powder Metallurgy Factory – A. K. Gaiduchenko, V. N. Grisyuk, V. N. Klimenko, I. D. Martyukhin, S. G. Napara-Volgina, É. Ya. Popichenko, and I. D. Radomysel'skii 960 16

Some Processes for the Manufacture of Sintered Frictional Disks – A. G. Bol'shechenko, A. I. Eroshenko, V. M. Kryachek, A. F. Zolotarev, N. F. Kokonesku, V. A. Yusukhno, and S. M. Makhnovskii 962 18

Effect of the Composition and Structure of the Matrix of MK-5 Material on the Properties of Frictional Disks – V. M. Kryachek, A. B. Aleksandrova, I. M. Fedorchenko, V. G. Tolochin, V. S. Fantalov, A. K. Gaiduchenko, and A. F. Zolotarev 965 22

Effect of Solid Lubricants upon the Physicomechanical and Frictional Properties of Materials – V. M. Kryachek, A. B. Aleksandrova, I. M. Fedorchenko, V. G. Tolochin, A. G. Bol'shechenko, A. I. Eroshenko, E. I. Solov'ev, and L. P. Prikhod'ko 970 28

Manufacture of Soft Magnetic Parts from Coarse Iron Powder – A. G. Bol'shechenko, I. D. Radomysel'skii, O. A. Panasyuk, E. L. Pechentkovskii, and S. M. Makhnovskii . 975 34

Development of an Industrial Process for the Manufacture of Sintered Magnetic Cores – A. G. Bol'shechenko, I. D. Radomysel'skii, O. A. Panasyuk, A. B. Mirzoyan, E. L. Pechentkovskii, É. Ya. Popichenko, L. A. Zhukovskaya, and V. N. Kravchuk . 978 38

Effect of Processing Factors on the Shrinkage and Magnetic Properties of Parts Produced from Iron-Phosphorus Powder – A. G. Bol'shechenko, O. A. Panasyuk, A. B. Mirzoyan, L. A. Zhukovskaya, and É. Ya. Popichenko 982 42

Boron Carbonitride – a High-Temperature Electric Insulating and Refractory Material – G. V. Samsonov, A. I. Eroshenko, V. I. Ostroverkhov, V. A. Krat, and T. V. Dubovik 985 46

Protective Sheaths of Thermocouples for Automatic Thermal Control over Metallurgical Processes – P. S. Kislyi, M. A. Kuzenkova, L. I. Struk, B. A. Morgunovskaya, V. K. Zvazhenko, A. G. Bol'shechenko, and V. I. Ostroverkhov 987 49

Wear-Resistant Materials for Pressing Ferrite Parts – M. S. Koval'chenko, N. N. Sereda, V. I. Ostroverkhov, and I. T. Belik 993 57

	Engl.	Russ.
Nondestructive Control of the Quality of Iron-Graphite Antifriction Parts —V. S. Dvuglyanskii, V. A. Il'nitskii, N. A. Belozub, and N. S. Sobchuk	995	59
Industrial Production of Parts from Self-Bonded Silicon Carbide at the Brovary Powder Metallurgy Factory—L. N. Frantsevich, G. G. Gnesin, Yu. P. Dyban', A. K. Gaiduchenko, E. I. Osovitskii, and V. I. Ostroverkhov	997	61
THEORY, PRODUCTION TECHNOLOGY, AND PROPERTIES OF POWDERS AND FIBERS		
The Shaping of Metal Drops during Atomization—O. S. Nichiporenko, Yu. I. Naida, and A. B. Medvedovskii	1000	64
THEORY AND TECHNOLOGY OF THE COMPONENT FORMATION PROCESS		
Formation of Structure and Properties in Extruded Silver and Silver-Nickel Materials —A. V. Belyankina, G. N. Braterskaya, L. I. Kostenetskaya, and O. K. Teodorovich	1004	69
THEORY AND TECHNOLOGY OF SINTERING, THERMAL, AND CHEMICOTHERMAL TREATMENT PROCESSES		
Hot Pressing of Magnetic Cores from a Mixture of Carbonyl Iron and Nickel Powders —G. I. Aksenov and I. A. Drozdov	1008	75
POWDER METALLURGICAL MATERIALS, PARTS, AND COATINGS		
Efficiency of Utilization of Plasma Jet Energy in the Application of Powder Coatings —V. V. Kudimov and V. M. Ivanov	1011	79
Boronizing of the Carbide Constituents of Hard-Alloy Tools—Yu. P. Kolosvetov, B. S. Navrotskii, and G. L. Zhunkovskii	1015	84
EXCHANGE OF EXPERIENCE AND INFORMATION		
Sintered Spacer Rings for Cotton Picking Machines—P. F. Kotov	1018	87
Rolling of Strip from Stainless Steel Powder—G. F. Tikhonov and V. K. Sorokin	1019	88
FROM ABROAD		
Kinetics and Mechanism of Sintering of Sodium Fluoride Crystals—L. Nikolić, D. Uskoković, and M. Ristić	1021	90
INDEX		
Author Index, Volume 11, Numbers 1-12, 1972	1031	
Tables of Contents, Volume 11, Numbers 1-12, 1972	1035	